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# **California Board of Registered Nursing**

## **2009-2010 Annual School Report**

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Data Summary and Historical Trend Analysis

A Presentation of Pre-Licensure Nursing Education Programs in California

### **Northern California**

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## INTRODUCTION

Each year, the California Board of Registered Nursing (BRN) requires all pre-licensure registered nursing programs in California to complete a survey detailing statistics of their programs, students and faculty. The survey collects data from August 1 through July 31. Information gathered from these surveys is compiled into a database and used to analyze trends in nursing education.

The BRN commissioned the University of California, San Francisco (UCSF) to conduct a historical analysis of data collected from the 2000-2001 survey through the 2009-2010 survey. In this report, we present ten years of historical data from the BRN Annual School Survey. Data analyses were conducted statewide and for nine economic regions<sup>1</sup> in California, with a separate report for each region. All reports are available on the BRN website (<http://www.rn.ca.gov/>).

This report presents data from the 11-county Northern California region. Counties in the region include Del Norte, Humboldt, Lake, Lassen, Mendocino, Modoc, Nevada, Plumas, Sierra, Siskiyou, and Trinity. All data are presented in aggregate form and describe overall trends in the areas and over the times specified and, therefore, may not be applicable to individual nursing education programs. Additional data from the past ten years of the BRN Annual School Survey are available in an interactive database on the BRN website.

Data collected for the first time from the 2009-2010 survey are identified by the symbol (§). The reliability of these new data will be reviewed and considered for continued inclusion in future surveys.

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<sup>1</sup> The nine regions include: (1) Northern California, (2) Northern Sacramento Valley, (3) Greater Sacramento, (4) Bay Area, (5) San Joaquin Valley, (7) Central Coast, (8) Southern California I (Los Angeles and Ventura counties), (9) Southern California II (Orange, Riverside, and San Bernardino counties), and (10) Southern Border Region. Counties within each region are detailed in the corresponding regional report. The Central Sierra (Region 6) does not have any nursing education programs and was, therefore, not included in the analyses.

## DATA SUMMARY AND HISTORICAL TREND ANALYSES

This analysis presents pre-licensure program data from the 2009-2010 BRN Annual School Survey in comparison with data from previous years of the survey. Data items addressed include the number of nursing programs, enrollments, completions, retention rates, student and faculty census data, the use of clinical simulation by nursing programs, and clinical space and practice restrictions.

### Trends in Pre-Licensure Nursing Programs

#### *Number of Nursing Programs*

There are four nursing programs in the Northern California Region that led to RN licensure. Of these programs, three are ADN programs and one is a BSN program. All programs in this region are public.

#### **Number of Nursing Programs**

	<i>Academic Year</i>									
	<i>2000-2001</i>	<i>2001-2002</i>	<i>2002-2003</i>	<i>2003-2004</i>	<i>2004-2005</i>	<i>2005-2006</i>	<i>2006-2007</i>	<i>2007-2008</i>	<i>2008-2009</i>	<i>2009-2010</i>
<b>Total # Nursing Programs</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>
ADN Programs	1	1	2	2	2	2	3	3	3	3
BSN Programs	1	1	1	1	1	1	1	1	1	1
ELM Programs	-	-	-	-	-	-	-	-	-	-
Public Programs	2	2	3	3	3	3	4	4	4	4
Private Programs	-	-	-	-	-	-	-	-	-	-

#### *Admission Spaces and New Student Enrollments*

Admission spaces available for new student enrollments grew rapidly as the number of pre-licensure nursing programs increased between 2000-2001 and 2007-2008. Since 2007-2008, however, available space for new enrollments has remained consistently around 150 spaces per year, while new student enrollments declined from 178 in 2007-2008 to 154 in 2009-2010. In addition, programs in the region were overenrolled in 2009-2010 by only one student. Together these data suggest that new enrollments in the region have plateaued.

#### **Availability and Utilization of Admission Spaces**

	<i>Academic Year</i>									
	<i>2000-2001</i>	<i>2001-2002</i>	<i>2002-2003</i>	<i>2003-2004</i>	<i>2004-2005</i>	<i>2005-2006</i>	<i>2006-2007</i>	<i>2007-2008</i>	<i>2008-2009</i>	<i>2009-2010</i>
Spaces Available	76	84	87	84	116	127	131	147	153	153
New Student Enrollments	70	77	87	84	104	144	147	178	172	154
% Spaces Filled	92.1%	91.7%	100.0%	100.0%	89.7%	113.4%	112.2%	121.1%	112.4%	101.5%

Nursing programs in the region continue to receive more applications requesting entrance into their programs than can be accommodated. Although there was a drop in the number of qualified applications in 2007-2008, qualified applications rebounded and the 2009-2010 total (n=438) was the highest of the past decade. As a result, the share of qualified applications that were not accepted for admission was also an historic high. In 2009-2010, 64.8% (n=284) of qualified applications to pre-licensure nursing education programs in the Northern California region were not accepted for admission.

### Applications Accepted and Not Accepted for Admission\*

	<i>Academic Year</i>									
	<i>2000-2001</i>	<i>2001-2002</i>	<i>2002-2003</i>	<i>2003-2004</i>	<i>2004-2005</i>	<i>2005-2006</i>	<i>2006-2007</i>	<i>2007-2008</i>	<i>2008-2009</i>	<i>2009-2010</i>
<b>Qualified Applications</b>	<b>99</b>	<b>108</b>	<b>62</b>	<b>174</b>	<b>214</b>	<b>343</b>	<b>350</b>	<b>272</b>	<b>419</b>	<b>438</b>
<i>Accepted</i>	70	77	87	84	104	144	147	178	172	154
<i>Not Accepted</i>	29	31	-25	90	110	199	203	94	247	284
% Qualified Applications <i>Not Accepted</i>	29.3%	28.7%	*NA	51.7%	51.4%	58.0%	58.0%	34.6%	58.9%	64.8%

\*Since these data represent applications rather than individuals, an increase in qualified applications may not represent equal growth in the number of individuals applying to nursing school.

The Northern California region has seen new student enrollments in its nursing programs more than double since 2000-2001. Over the past two years, however, enrollments in ADN programs have declined slightly (from 118 in 2007-2008 to 94 in 2009-2010), while enrollments in BSN programs have remained stable. 61.0% of nursing students in Northern California are educated in public ADN programs.

### New Student Enrollment by Program Type

	<i>Academic Year</i>									
	<i>2000-2001</i>	<i>2001-2002</i>	<i>2002-2003</i>	<i>2003-2004</i>	<i>2004-2005</i>	<i>2005-2006</i>	<i>2006-2007</i>	<i>2007-2008</i>	<i>2008-2009</i>	<i>2009-2010</i>
<b>New Student Enrollment</b>	<b>70</b>	<b>77</b>	<b>87</b>	<b>84</b>	<b>104</b>	<b>144</b>	<b>147</b>	<b>178</b>	<b>172</b>	<b>154</b>
ADN	30	33	40	40	50	89	103	118	110	94
BSN	40	44	47	44	54	55	44	60	62	60
ELM	-	-	-	-	-	-	-	-	-	-
Private	-	-	-	-	-	-	-	-	-	-
Public	70	77	87	84	104	144	147	178	172	154

### Student Completions

The number of students completing a nursing program in 2009-2010 increased slightly compared with the previous year (from 141 completions in 2008-2009 to 146 completions in 2009-2010). The increase is the result of more BSN graduates. Overall, student completions in the Northern California region have more than doubled since 2003-2004, but the data suggest that the number of graduates from these programs is stabilizing. Of the 146 students that completed a nursing program in Northern California in 2009-2010, 61.6% (n=90) of them completed an ADN program and 38.4% (n=56) completed a BSN program. This represents a shift in the distribution of graduates by program level toward the BSN degree.

#### Student Completions

	<i>Academic Year</i>									
	<i>2000-2001</i>	<i>2001-2002</i>	<i>2002-2003</i>	<i>2003-2004</i>	<i>2004-2005</i>	<i>2005-2006</i>	<i>2006-2007</i>	<i>2007-2008</i>	<i>2008-2009</i>	<i>2009-2010</i>
<b>Student Completions</b>	<b>55</b>	<b>62</b>	<b>59</b>	<b>59</b>	<b>90</b>	<b>108</b>	<b>122</b>	<b>142</b>	<b>141</b>	<b>146</b>
ADN	21	28	26	29	52	57	82	95	99	90
BSN	34	34	33	30	38	51	40	47	42	56
ELM	-	-	-	-	-	-	-	-	-	-

### Retention Rate

Of the 151 students scheduled to complete a nursing program in the 2009-2010 academic year, 86.8% (n=131) completed the program on-time, 1.3% (n=2) are still enrolled in the program, and 11.9% (n=18) dropped out or were disqualified from the program. The retention rate decreased while the attrition rate increased compared with the previous year.

#### Student Cohort Completion and Retention Data

	<i>Academic Year</i>									
	<i>2000-2001</i>	<i>2001-2002</i>	<i>2002-2003</i>	<i>2003-2004</i>	<i>2004-2005</i>	<i>2005-2006</i>	<i>2006-2007</i>	<i>2007-2008</i>	<i>2008-2009</i>	<i>2009-2010</i>
<b>Students Scheduled to Complete the Program</b>	<b>138</b>	<b>78</b>	<b>77</b>	<b>101</b>	<b>103</b>	<b>98</b>	<b>113</b>	<b>152</b>	<b>129</b>	<b>151</b>
Completed On Time	120	55	60	72	83	85	98	134	119	131
Still Enrolled	5	2	3	5	4	0	3	3	1	2
Attrition	13	21	14	24	16	13	12	15	9	18
Completed Late <sup>‡</sup>										0
<b>Retention Rate*</b>	87.0%	70.5%	77.9%	71.3%	80.6%	86.7%	86.7%	88.2%	92.2%	86.8%
<b>Attrition Rate</b>	9.4%	26.9%	18.2%	23.8%	15.5%	13.3%	10.6%	9.9%	7.0%	11.9%
<b>% Still Enrolled</b>	3.6%	2.6%	3.9%	4.9%	3.9%	0.0%	2.7%	1.9%	0.8%	1.3%

\*Retention rate = (students who completed the program on-time) / (students scheduled to complete the program)

<sup>‡</sup> Data were collected for the first time in the 2009-2010 survey. These completions are not included in the calculation of either the retention or attrition rates.

There has been fluctuation in the retention and attrition rates over the ten-year period documented in the above table. There were changes to the survey between 2003-2004 and 2004-2005, and between 2004-2005 and 2005-2007 that may have affected the comparability of these data over time.

### *Student Census Data*

The total number of students enrolled in nursing programs in the Northern California region has grown substantially since 2001. However, 2010 regional enrollment data indicate a plateau. 2010 census data confirm this development. On October 15, 2010 there were a total of 290 students enrolled in one of the region's pre-licensure nursing education programs, down 14% from 337 students in the previous year.

#### **Student Census Data\***

<b>Program Type</b>	<b>Year</b>									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
ADN Program	53	58	86	95	123	132	163	168	160	155
BSN Program	107	109	113	140	148	130	119	133	177	135
ELM Program	-	-	-	-	-	-	-	-	-	-
<b>Total Nursing Students</b>	<b>160</b>	<b>167</b>	<b>199</b>	<b>235</b>	<b>271</b>	<b>262</b>	<b>282</b>	<b>301</b>	<b>337</b>	<b>290</b>

\*Census data represent the number of students on October 15<sup>th</sup> of the given year.

### *Clinical Simulation in Nursing Education*

All of the schools (100%) in the Northern California region with pre-licensure nursing programs reported using clinical simulation <sup>2</sup> in 2009-2010. All schools (100%) reported that they use clinical simulation to standardize clinical experiences, to provide clinical experience not available in a clinical setting, and to check clinical competencies. Three of the region's four schools reported plans to expand their use of clinical simulation.

<b>Reasons for Using a Clinical Simulation Center*</b>	2007-2008	2008-2009	2009-2010
To standardize clinical experiences	100%	75.0%	100%
To provide clinical experience not available in a clinical setting	100%	75.0%	100%
To check clinical competencies	0.0%	75.0%	100%
To make up for clinical experiences	0.0%	50.0%	25.0%
To increase capacity in your nursing program	100%	25.0%	50.0%
<b>Number of schools that use a clinical simulation center</b>	<b>1</b>	<b>4</b>	<b>4</b>

\*These data were collected for the first time in 2006-2007. However, changes in these questions for the 2007-2008 administration of the survey and lack of confidence in the reliability of the 2006-2007 data prevent comparability of the data. Therefore, data from previous years of the survey are not shown.

<sup>2</sup> Clinical Simulation Center/Experience - students have a simulated real-time nursing care experience using hi-fidelity mannequins and clinical scenarios, which allow them to integrate, apply, and refine specific skills and abilities that are based on theoretical concepts and scientific knowledge. The experience includes videotaping, de-briefing and dialogue as part of the learning process.

### *Clinical Space & Clinical Practice Restrictions<sup>‡</sup>*

Only one of the region's four pre-licensure nursing programs (an ADN program) reported being denied access to a single clinical placement site in 2009-2010 that had been available during the 2008-2009 academic year, affecting a total of 18 students. The reported reasons for why the program was denied clinical space were clinical staff nurses being overloaded, nursing residency programs, or some other reason (a clinical facility closure).

Reasons for Clinical Space Being Unavailable	Total
	%
Competition for Clinical Space due to Increase in Number of Nursing Students in Region	0.0%
Staff Nurse Overload	100%
No Longer Accepting ADN Students	0.0%
Displaced by Another Program	0.0%
Clinical Facility Seeking Magnet Status	0.0%
Decrease in Patient Census	0.0%
Nursing Residency Programs	100%
Other	100%
Number of programs	1

All four nursing schools (100%) in the Northern California region reported that pre-licensure students in their programs had encountered restrictions to clinical practice imposed on them by clinical facilities. The most common types of restricted access students faced were to the clinical site itself due to a visit from the Joint Commission or another accrediting agency, access to electronic medical records, and bar coding medication administration. The most uncommon restrictions faced by students were restrictions on direct communication with health care team members, access to IV medication administration, the use of glucometers, or an alternative clinical setting due to liability issues.

Type of Restricted Access	Percentage of Schools (%)					# Schools
	Very Uncommon	Uncommon	Common	Very Common	N/A	
Bar coding medication administration	50.0%	0.0%	25.0%	25.0%	0.0%	4
Electronic Medical Records	25.0%	0.0%	50.0%	25.0%	0.0%	4
Glucometers	50.0%	25.0%	25.0%	0.0%	0.0%	4
Automated medical supply cabinets	25.0%	25.0%	0.0%	25.0%	25.0%	4
IV medication administration	50.0%	25.0%	25.0%	0.0%	0.0%	4
Clinical site due to visit from accrediting agency (Joint Commission)	25.0%	0.0%	50.0%	25.0%	0.0%	4
Direct communication with health team	75.0%	0.0%	0.0%	0.0%	25.0%	4
Alternative setting due to liability	50.0%	25.0%	0.0%	0.0%	25.0%	4

<sup>‡</sup> Data were collected for the first time in the 2009-2010 survey.

### *Faculty Census Data*

Schools in the Northern California region reported a total of 62 nursing faculty members in 2010. This is an increase of 6 faculty over the previous year. Of these faculty, 22.6% (n=14) were full-time and 77.4% (n=48) were part-time.

Nursing schools in the region reported only a single faculty vacancy in 2010. This represents a 1.6% vacancy rate, which is the lowest rate in ten years.

#### **Faculty Census Data<sup>1</sup>**

	Year									
	2001	2002	2003	2004	2005 <sup>2</sup>	2006*	2007*	2008	2009	2010
<b>Total Faculty</b>	<b>29</b>	<b>28</b>	<b>23</b>	<b>24</b>	<b>32</b>	<b>34</b>	<b>44</b>	<b>61</b>	<b>56</b>	<b>62</b>
Full-time	14	13	14	15	6	15	17	16	16	14
Part-time	15	15	9	9	12	19	27	45	40	48
<b>Vacancy Rate**</b>		<b>6.7%</b>	<b>14.8%</b>	<b>14.3%</b>	<b>8.6%</b>	<b>5.6%</b>	<b>6.4%</b>	<b>6.2%</b>	<b>6.7%</b>	<b>1.6%</b>
Vacancies		2	4	4	3	2	3	4	4	1

\* The sum of full- and part-time faculty did not equal the total faculty reported in these years.

\*\*Vacancy rate = number of vacancies/(total faculty + number of vacancies)

1 - Census data represent the number of faculty on October 15<sup>th</sup> of the given year.

2 - Faculty vacancies were estimated based on the vacant FTEs reported.

### *Summary*

Over the past decade, the number of admission spaces available in pre-licensure nursing education programs in the Northern California region has doubled, as have new student enrollments. However, during the past three years both available space and new enrollments have stabilized. Despite this fact, nursing programs in the region continue to receive more qualified applications than can be accommodated. In 2009-2010, 64.8% (n=284) of the total number of qualified applications received were not accepted.

Nursing program expansions over the past ten years have also led to a growing number of RN graduates in the region. However, as with available space and new enrollments, student completions have also plateaued. Retention rates had been increasing and attrition rates had been declining over the past several years, but in 2009-2010 program retention was lower and program attrition higher by comparison.

All four programs in the region reported use of clinical simulation during the 2009-2010 academic year, and three of the four programs reported plans to expand its use. Only one school reported being denied access to clinical space that had been previously available. All four schools reported that students had faced restricted access to specific types of clinical practice or to a clinical site itself during the year.

The total number of nursing faculty has grown through the decade as programs have expanded. Over the past three years, though, faculty numbers have fluctuated. In 2010, only one faculty vacancy was reported, resulting in a vacancy rate of just 1.6%, which is a ten-year low.



## APPENDIX A – Northern California Nursing Education Programs

### ADN Programs

College of the Redwoods  
College of the Siskiyous  
Mendocino College

### BSN Programs

Humboldt State University

## APPENDIX B – BRN Education Advisory Committee Members

### BRN Education Advisory Committee Members

#### Members

Loucine Huckabay, Chair  
Sue Albert  
Audrey Berman  
Liz Close  
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Scott R. Ziehm, ND, RN

#### Organization

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College of the Canyons  
Samuel Merritt University  
Sonoma State University  
College of the Redwoods  
Loma Linda University  
California Institute of Nursing and Health Care  
formerly with California Community College Chancellor's Office  
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#### Ex-Officio Members

Louise Bailey                      California Board of Registered Nursing

#### Project Managers

Carol Mackay                      California Board of Registered Nursing  
Julie Campbell-Warnock        California Board of Registered Nursing